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Southern Forestry Notes



FOREST SERVICE, U. S. DEPARTMENT OF AGRICULTURE

Southern Forest Experiment Station, New Orleans, La.

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F76245

No. 118

FEB 19 1955

U. S. DEPARTMENT OF AGRICULTURE

November 1958

Cop. 2

DEADENING SCRUB HARDWOODS LIVENS UP FORAGE

Quality and quantity of forest range forage can be increased by killing scrub hardwoods.

On a cutover longleaf pine area in central Louisiana, herbicides were used to kill scrub hardwoods, mainly post and blackjack oaks. The second year afterwards, forage samples, primarily of pinehill bluestem and various species of Panicum, were collected throughout the growing season. These samples were analyzed by the Fertilizer and Feedstuffs Laboratory of the Louisiana Agricultural Experiment Station.

From late April to early August forage where trees had been deadened averaged 8.2% crude protein and 0.10% phosphorus. Samples from plots where trees were not deadened averaged 7.4% crude protein and 0.08% phosphorus. The proportions of these nutrients declined in late summer, but forage from plots where hardwoods had been deadened retained its advantage in quality. Calcium was consistently above 0.38%, with little difference between treatments.

Hardwood removal increased the amount as well as the quality of the forage. At the end of the third year, production (air-dry) on treated plots was 2,415 pounds per acre. This was more than three times the 675 pounds on untreated plots. --
Don A. Duncan and L. B. Whitaker.

TEST INSECTICIDE FOR TWIG BORER

Good control of a twig borer, Gypsonoma haimbachiana, a pest in young cottonwood plantations, was obtained in a preliminary test of Thimet, one of the systemic insecticides. Cottonwood cuttings planted March 9, 1958, at Stoneville, Mississippi, were dip-treated in a 44% Thimet dust with carbon carrier. Other cuttings planted at the same time were left untreated for comparison.

After 6-1/2 months, the cuttings treated with Thimet had an average of 1.1 borers per plant, and 0.8 per leader. The untreated cuttings had an average of 39.9 borers per plant, and 17.9 per leader. This preliminary test will be supplemented in 1959. --Robert C. Morris.

BORATE FIRELINES TOXIC TO SOUTHERN VEGETATION

Sodium calcium borate, when used at the rate required to construct firelines in the South, is toxic to vegetation.

Application of slurries containing 3 to 5 pounds per gallon of sodium calcium borate makes forest fuels fire-resistant. In the West, bulk air-drops yielding 5 gallons or less of slurry per 100 square feet of ground surface have been effective in fire suppression without causing unacceptable harm to living plants. Tests in central Louisiana during the winter of 1957-58 have shown that construction of effective firelines in southern fuels by spraying from the ground requires 5 to 15 gallons per 100 square feet, and that these quantities are toxic to vegetation. First-year symptoms of toxicity did not vary appreciably with quantity of slurry.

Longleaf, loblolly, and slash pines 6 to 10 feet tall, sprayed in December 1957 with 1 or 2 gal-

lons of borate per tree, made normal height growth but lost an abnormal amount of old foliage. By August 1958, the remaining 1957 needles were dead for half their length, and tips of 1958 needles were dying back. By mid-September dead needle tips were about 2 inches long on loblolly and longleaf. New needles on slash pines were half dead, all sprayed slash pines had poor color, and one appeared sure to die.

On strips sprayed in December with 10, 12.5, or 15 gallons of borate slurry per 100 square feet, 95% of loblolly pines planted the following January died. Mortality on adjacent unsprayed strips was only 5%, but 88% of the pines showed boron injury because heavy rains spread the chemical from the sprayed strips. Slash pine seed sown in March 1958 on sprayed strips apparently did not germinate. On adjacent unsprayed strips, germination was halved by borate washed in by rain. The borate killed or severely injured most brush and herbaceous vegetation. A few species appeared resistant.

Boron injury could be tolerated for a year on the small area covered by firelines, but persistence of toxicity and spreading of the effect by surface and ground water would be undesirable. Duration of the effect is being studied, and will be reported later. --George R. Fahnestock.

SUMMARY OF U. S. FOREST STATISTICS

Statistical Bulletin 228, HISTORICAL FORESTRY STATISTICS OF THE UNITED STATES, has just been published by the Department of Agriculture. This 36-page reference tabulates information on forest fires, tree planting, timber production and prices, and the national forests. Copies are available on request to the Southern Forest Experiment Station.

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- *Thames, J.L. *Hydraulic inserter for soil-moisture units*. Soil Science, September 1958, pp. 156-159.
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- *Williston, H.L. *Shortleaf versus loblolly pine in north Mississippi*. Journal of Forestry, October 1958, p. 761.
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*Copies are available at the Southern Station.